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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,585	10/29/2003	Bradley Engstrand	MOT-P-03-002	7691
29013	7590	05/09/2006	EXAMINER	
PATENTS+TMS, P.C. 2849 W. ARMITAGE AVE. CHICAGO, IL 60647			LUU, THANH X	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 05/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,585	ENGSTRAND, BRADLEY	
	Examiner	Art Unit	
	Thanh X. Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-20 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 30, 2006 has been entered.

Claims 1-7 and 9-22 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 19, "the first end" and "the second end" lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (U.S. Patent 5,650,613).

Regarding claims 1, 2, 4, 5 and 7, Lewis discloses (see Figs. 1 and 2) an apparatus for monitoring position, comprising: a cylinder (24) having walls defining an interior and further having a length defined between a first end and a second end wherein the first end is opposite to the second end of the cylinder; a first wall (25) at the first end of the cylinder; a shaft (18) having a length defined between the first end and the second end wherein a portion of the shaft is within the interior of the cylinder and wherein the shaft moves within the interior of the cylinder; a second wall (27) at the second end of the cylinder; an aperture (30) within the first wall wherein light projects through the aperture into the cylinder; and a sensor (42, 43) at the second wall wherein the sensor detects intensity of light within the interior of the cylinder at the second end which is not absorbed by the shaft and the interior of the cylinder wherein the intensity of the light detected by the sensor corresponds to a position of the shaft in the interior of the cylinder. Air, a fluid, inherently is within the cylinder.

6. Claims 1-7 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ejiri et al. (U.S. Patent 3,374,477).

Regarding claims 1-7, Ejiri et al. disclose (see Figs) an apparatus for monitoring position, comprising: a cylinder (housing; not labeled) having walls defining an interior and further having a length defined between a first end and a second end wherein the first end is opposite to the second end of the cylinder; a first wall (12) at the first end of the cylinder; a shaft (1) having a length defined between the first end and the second

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end wherein a portion of the shaft is within the interior of the cylinder and wherein the shaft moves within the interior of the cylinder; a second wall (left end wall; not labeled) at the second end of the cylinder; an aperture (for 9) within the first wall wherein light projects through the aperture into the cylinder; and a sensor (leftmost instance of 6) at the second wall wherein the sensor detects intensity of light within the interior of the cylinder at the second end which is not absorbed by the shaft and the interior of the cylinder wherein the intensity of the light detected by the sensor corresponds to a position of the shaft in the interior of the cylinder. Air, a fluid, inherently is within the cylinder. The aperture is at a center of the wall. Ejiri et al. also disclose a second shaft (1a or 1b) as claimed.

Regarding claims 18-20, Ejiri et al discloses (see Figs.) a method of measuring a position within a cylinder (housing; not labeled) defining an interior wherein the cylinder has an interior surface and an exterior surface wherein the cylinder has a length defined between a first wall (12) and a second wall (left end wall; not labeled) wherein the cylinder has an aperture (for 9) formed in the first wall and further wherein the cylinder has a head (2 or 4) within the interior wherein the head is movable (capable of being moved) within the interior of the cylinder from the first wall to the second wall, comprising the steps of: directing light (with 9) into the interior through the aperture; attaching a light sensor (leftmost instance of 6) to the interior surface of the cylinder at the second wall wherein the light sensor is located within the interior of the cylinder and the head is located between the aperture and the light sensor; detecting an amount of light in the interior of the cylinder at the second wall which is not absorbed by the interior

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surface and the head of the cylinder wherein the light sensor detected the amount of light received from the aperture in the first wall; and determining a position of the head in the interior of the cylinder wherein the position of the head corresponds to the amount of light detected by the light sensor. A fluid, air, is inherently placed in the cylinder. Furthermore, as understood, during assembly, the head is moved within the cylinder between the first and second walls.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Horton et al. (U.S. Reissued Patent RE37,969).

Regarding claim 3, Lewis discloses the claimed invention as set forth above. Lewis does not specifically disclose a second shaft within the cylinder. Horton et al. teach (see Fig. 1) a similar device in which there are two shafts (at least 2, 4 and 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a second shaft in the apparatus of Lewis in view of Horton et al. to provide torque measurements as taught.

9. Claims 9-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Abe et al. (U.S. Patent 4,727,356).

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Regarding claims 9-12 and 14-16, Lewis discloses (see Figs. 1 and 2) a system for monitoring position, comprising: a cylinder (24) having walls defining an interior wherein the cylinder has a shaft (18) within the interior wherein the shaft extends through a first wall (25) of the cylinder and wherein the shaft is moveable within the interior of the cylinder and further wherein the cylinder has an aperture (30) in the first wall adjacent to the shaft wherein light is continuously projected into the interior of the cylinder via the aperture; and a sensor (42, 43) on a second wall (27) of the cylinder wherein the first wall is opposite to the second wall, the sensor detects an amount of light within the cylinder at the second wall that is not absorbed by the shaft and further wherein the amount of light detected by the sensor corresponds to a position of the shaft within the interior of the cylinder. Lewis also discloses a head (26) attached to the shaft as claimed; a window (36) within the aperture (30). A processor is inherently connected to the sensor for position determination. Lewis does not specifically disclose the sensor is located within the interior of the cylinder and extends inward from the second wall. Abe et al. teach (see Fig. 1) a similar device in which the sensor (13) is located within a cylinder and extends inward from a second wall. Thus, Abe et al. recognize that choosing where to place the sensor is design choice and would require only routine skill in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the sensor within the cylinder as claimed in the apparatus of Lewis in view of Abe et al. to obtain a more compact device as desired. As understood, the sensor is located at a center of the second wall and a fluid (air) is within the system.

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10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Abe et al. and Horton et al.

Regarding claim 13, Lewis and Abe et al. disclose the claimed invention as set forth above. Lewis and Abe et al. do not specifically disclose a second shaft within the cylinder. Horton et al. teach (see Fig. 1) a similar device in which there are two shafts (at least 2, 4 and 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a second shaft in the apparatus of Lewis in view of Abe et al. and Horton et al. to provide torque measurements as taught.

11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Abe et al. and further in view of Lee et al. (U.S. Statutory Registration H277).

Regarding claim 17, Lewis and Abe et al. disclose the claimed invention as set forth above. Lewis and Abe et al. do not specifically disclose a coating on the shaft as claimed. Lee et al. teach (see Fig. 2) a coating on a shaft for absorbing light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a coating as claimed in the apparatus of Lewis in view of Abe et al. and Lee et al. to reduce spurious reflections and improve detection.

Allowable Subject Matter

12. Claim 22 is allowed over the prior art of record.

13. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject

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matter: a method as claimed, more specifically in combination with: connecting a magnet to the head of the cylinder wherein the magnet is adjacent to the exterior surface of the cylinder, is not disclosed or made obvious by the prior art of record.

Response to Arguments

15. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh X Luu
Primary Examiner
Art Unit 2878

05/2006